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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,648	09/30/2003	Kwang Su Choe	YOR920030294US1 (16817)	4794
23389 7590 06/02/2008 SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530				
EXAMINER PADGETT, MARIANNE L				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
06/02/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Continuing sheet-PTO-303

3. Proposed amendments not entered because:

The proposed new independent claim 40 contains multiple New Issues: (1) the combination of limitations previously in dependent claims 2-3, 7, 12-14, 21 & 31-32, which were previously not combined creates new issues by necessarily requiring;

(2) the typographical error of "Hf" instead of a --HF-- in new claim 40 with respect to the anodization limitation is New Issue/New Matter as written;

(3) in lines 2-3 of new claim 40, the dopant ion implantation "to a depth ranging from about 250 nm to about 1500 nm from a top of the Si-containing substrate" is a new issue not previously considered, and it is noted that the support in [0039], which references fig.1A, ref.# 12, appears to be indicating that these values represent approximately the depth at which the implanted region starts and stops, i.e. the bounds of its thickness, however the claims as written could indicate this, or could be indicating that this is a range representing the maximum depth to which the first implantation occurs;

(4) claim 40's limitation concerning the "second ion implanting", which finds support in [0040-41] & claims 31-32 contains the New Issue of the location of these ions with respect to the implanted dopant ions, where it is also noted that while the sequence of the steps as recited implies an order in which individual limitations are performed, when the second ion implanting occurs is not actually necessitated in the claims, however in the cited is support of the specification [0042], clearly indicates via its temporal language "Next, the structure... is annealed..." that the two ion implanting steps occur before the annealing, which is not necessitated by the claim language, hence produces the additional issue of possible New Matter for the process as now presented in claim 40;

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(5) in the anodization limitation the issue of the depth (>50 nm) at which porosity of claim percentage ranges are produced is a new issue not previously examined, although supported in the cited [0047-53], especially [0051 & 53];

(6) in the thermal oxidizing limitation discussed in the cited [0058-62], the examiner notes that [0058] specifically discloses that not all of the porous layer is converted into but buried oxide layer, but that only the finer porous region becomes buried oxide 20, while the coarser porous silicon region typically coalesces into monocrystalline silicon, becoming part of the overlying silicon-containing overlayer 22 (figures 1C-1E). Since the graded porosity structure with finer & coarser porosity is taught in the preceding paragraphs to come from the use of the dual ion implanting procedure, which is incorporated into claim 40, the claim of converting all of the porous region into a buried oxide region raises issues of new matter & would appear to acquire forming a thicker buried oxide layer that appears to be contemplated by the sequence of steps which applicant has cited as support.

(7) Also, as discussed in the interview the claim 4-6 dependent claim sequence, raises the issue of whether or not the p-type dopant is intended to be positively claimed or remain optional in these dependent claims.

5. **The proposed amendment overcomes:**

the proposed amendment would appear to be correct problems set forth in previous 112 first & second rejections of sections 2-4 of the action mailed 3/14/2008, but creates potential new problems as detailed above. It also would appear to remove all prior art rejections as presently written (except maybe Hodge et al.), however require other considerations as partially discussed below. Generally it is noted by the examiner that it appears the Ikeda, Hiromitsu & Houston references do not provide teachings concerning the second ion implanting; and Bendernagel et al. & Sadana, while contemplating multiple ion implantings, do not perform them with the right combinations of ions for the claims as proposed.

11. **The request for reconsideration does not place the application in condition for allowance because:** the proposed claims potentially include new matter & creates new issues that require further consideration for the claims as proposed, including further search for specific combinations of limitations not previously required to be considered together, including new depth parameters for which there was not previous search & review. Also it is noted that for the claims as written, where the first ion implanting with dopant & the second ion implanting with Si or Ge or Ne or Bi or Sn or Xe can be done at different times with respect to the annealing, etc., the process of Hodge et al. (5387541), which anodizes a doped silicon substrate (may have been implanted & annealed to activate) to create a porous layer, which may be then implanted with claimed second implanting ions & then oxidized at temperatures overlapping with those claimed, hence it appears that Hodge et al. is still applicable to or requiring 103 considerations, where only some rearrangement of the current rejection as written &/or secondary references would appear to be required.

13. **Other:** applicants' Summary of the 5/21/2008 interview submitted on 5/22/08, with its offer to amend problems as discussed in the interview, is noted, however as discussed above, there are further issues that need consideration, such that while the proposed claims would remove most rejections, these claims also include the above discussed new issues which such amendments would not resolve.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne L. Padgett whose telephone number is (571) 272-1425. The examiner can normally be reached on M-F from about 8:30 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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/Marianne L. Padgett/
Primary Examiner, Art Unit 1792

MLP/dictation software

5/28/2008